

**UNITED STATES  
DEPARTMENT OF LABOR  
MINE SAFETY AND HEALTH ADMINISTRATION  
Metal and Nonmetal Mine Safety and Health**

**REPORT OF INVESTIGATION**

**Surface Nonmetal Mine  
(Cement)**

**Fatal Powered Haulage Accident  
August 18, 2004**

**Holcim (US) Incorporated  
Clarksville Plant  
Clarksville, Pike County, Missouri  
Mine ID No. 23-00053**

**Investigators**

**Robert D. Seelke  
Supervisory Mine Safety and Health Inspector**

**Vernon E. Miller  
Mine Safety and Health Inspector**

**Originating Office  
Mine Safety and Health Administration  
South Central District  
1100 Commerce Street, Room 462  
Dallas, Texas 75242  
Edward E. Lopez, District Manager**

## **OVERVIEW**

On August 18, 2004, Jerry E. Huckstep, shipping/unloading helper and deckhand, age 50, was fatally injured when he was struck by moving railcars. He was helping the locomotive operator reposition railcars in the plant rail yard.

The accident occurred because safe work procedures had not been established to guide miners who were assigned to move railcars. The locomotive operator and the victim did not maintain visual contact or have some system to communicate with each other.

A risk assessment was not conducted by the crew prior to commencing this task. Steps were not taken to identify possible hazards. Controls were not implemented to eliminate the risks involved with repositioning railcars within the plant rail yard.

## **GENERAL INFORMATION**

Clarksville Plant, a cement plant and quarry, was located about one mile north of Clarksville, Pike County, Missouri. The plant was owned and operated by Holcim (US) Incorporated. The principal operating official was Mike Ayers, plant manager.

Holcim (US) hired an independent contractor to drill, blast, and crush limestone from multiple benches in the quarry. Blasted rock was loaded into haul trucks with front end loaders and hauled to the primary crusher. Crushed rock was delivered to the plant by conveyor belt. The contractor employed 14 persons at the quarry and crusher.

The cement plant operated three 8-hour shifts, seven days a week. Total employment was 160 persons. Crushed limestone was combined with other materials to produce cement that was sold in bulk for use in the construction industry. Burlington Northern railroad supplied empty railcars to the plant and delivered loaded railcars to Holcim (US) customers.

The last regular inspection of this operation was completed on May 20, 2004.

## **DESCRIPTION OF ACCIDENT**

On the day of the accident, Jerry Huckstep (victim) reported for work at 7:00 a.m., his normal starting time. He worked in the shipping department during the morning and early afternoon, performing routine tasks.

About 11:30 a.m., Gene Long, distribution services supervisor, instructed Jackie Mills, shipping operator, to remove an empty railcar from the synfuel unloading pad and replace it with a full railcar located on the inbound track. Long gave Mills the railcar numbers, and told her to take Huckstep along to assist while she operated a company-owned locomotive.

Mills and Huckstep went to the rail yard about 1:30 p.m. Portable radios were available, but they did not discuss using them. It was a generally accepted practice at the plant for the switchman to employ hand signals when weather conditions were good.

Mills first moved the empty synfuel railcar from the unloading area to the outbound track. She found that the full synfuel railcar was attached to the last of seven empty cement railcars. This required Mills to move through switch 6114 several times, with and without railcars, to reposition the synfuel railcar next to the locomotive.

About 2:00 pm, after the railcars had been positioned properly, Huckstep threw the switch so Mills could move north onto the inbound track with the eight railcars. Mills observed Huckstep give a hand signal to push the railcars through the switch. Huckstep then turned and walked north, in the direction that the train would be moving.

Mills looked away from the window and activated the controls that enabled the locomotive to start pushing the railcars through the switch. Mills saw Huckstep lying on the east rail of the inbound track. She stopped the locomotive, exited, and went toward Huckstep. Mills saw that Huckstep was under the rear truck of the third railcar from the rear of the train. She immediately got into a nearby company-owned pickup and drove to the load-out area to seek assistance.

The plant-wide emergency notification system was initiated at 2:15 p.m. and emergency personnel were summoned. Emergency medical personnel arrived a short time later and summoned the county coroner, who pronounced Huckstep dead at the scene. Death was attributed to massive trauma.

## **INVESTIGATION OF ACCIDENT**

MSHA was notified of the accident at 3:25 p.m. on August 18, 2004, by a telephone call from Robert Mustell, environmental engineer, to Mitchell Adams, assistant district manager. An investigation was started that same day. An order was issued pursuant to Section 103(k) of the Mine Act to ensure the safety of the miners. MSHA's accident investigation team traveled to the mine, made a physical inspection of the accident scene, interviewed employees, and reviewed documents and work procedures relevant to the accident. MSHA conducted the investigation with the assistance of mine management and employees.

## **DISCUSSION**

### **Location of the Accident**

The accident occurred on the inbound track in the plant rail yard. Huckstep was first hit by the rear railcar, approximately 163 feet north of switch 6114. He was found under the rear truck of the third railcar from the rear of the train. The front of the locomotive was 124 feet south of switch 6114 after Mills stopped the locomotive. The weather was partly cloudy, hot, and humid.

### **Plant Rail Yard**

The plant rail yard consisted of two side tracks located east of the Burlington Northern main line and passing track. The side tracks ran generally north-south and were used exclusively by Burlington Northern and the plant. The two tracks curved to the east along the north approach to switch 6114 and converged at the switch. Track grade in the rail yard was about 1 percent from south to north.

Track 1 was for outbound traffic and was used by the plant to park loaded railcars until Burlington Northern retrieved them. Track 2 was for inbound traffic and Burlington Northern parked empty railcars there until the plant needed them. Both tracks were standard gauge (4 feet, 8 ½ inches), with 112-pound rails.

The length of the train and the layout of the tracks should have enabled the locomotive operator to maintain visual contact with Huckstep, if he had continued to walk north along the east rail of the inbound track.

### **Locomotive**

The locomotive was owned and operated by Holcim (US). It was built by Electro-Motive Corporation at La Grange, Illinois, in 1939. It had one 600 horsepower diesel-electric engine, Westinghouse air brakes, and weighed 202,400 pounds.

### **Railcars**

The seven covered-hopper cement railcars were leased to Burlington Northern Railroad. Each of the railcars had an empty weight of 54,200 pounds and a capacity of 100 tons. The railcars had air-actuated friction brakes on the end wheels. The brakes could be manually applied by turning a ratchet wheel on the front of the railcar. Each railcar was equipped with ladders on the end and side of all four corners. There was an 8-inch by 5-foot metal platform, with skid-resistant surface, across each end of every railcar to provide access from one side of the railcar to the other.

### **Communication**

When weather conditions limited visibility, the employees used radios to communicate when railcars were moved. At other times, including the day of the accident, employees used hand signals to communicate with each other. At least one locomotive operator insisted on maintaining visual contact with the switchman when railcars were moved. However, not all employees made that their practice and there was no written policy or procedure in effect.

### **Training**

Huckstep had a total of nine years of mining experience. He had received training in accordance with 30 CFR, Part 46.

## **ROOT CAUSE ANALYSIS**

A root cause analysis was conducted and the following causal factors were identified:

**Causal Factor:** Management policies, standards, and controls were inadequate and failed to implement safe work procedures to ensure that miners were protected from hazards when working near moving railcars. Personnel assigned to this task were not monitored periodically to ensure safe procedures were followed.

**Corrective Action:** A risk assessment should be performed to identify all possible hazards and establish policies and procedures that ensure the protection of persons assigned to move railcars.

**Causal Factor:** Neither visual contact nor communication was maintained between employees who were moving railcars. The locomotive operator continued to push the railcars onto the inbound track even though the victim was no longer in view.

**Corrective Action:** Safe work procedures for moving railcars should ensure that either visual contact or communication be maintained between the locomotive operator and any other person working to move railcars.

## CONCLUSION

The accident occurred because safe work procedures had not been established for moving railcars in the plant rail yard. The victim signaled that the switch had been thrown and walked in the direction that the railcars were to be pushed. The locomotive operator and the victim did not maintain visual contact or have some system to communicate with each other.

## ENFORCEMENT ACTIONS

**Order No. 6220484** was issued on August 18, 2004, under the provisions of Section 103(k) of the Mine Act:

A fatal accident occurred at this operation on August 18, 2004, when a miner was run over by railcars while he was working as a switchman on the number 2 track (inbound). This order is issued to assure the safety of all persons at this operation. It prohibits all activity on the number 2 track (inbound) until MSHA has determined that it is safe to resume normal mining operations in the area. The operator shall obtain prior approval from an authorized representative for all actions to recover and/or restore operations to the affected area.

This order was terminated on August 20, 2004, after the conditions that contributed to the accident no longer existed.

Approved: \_\_\_\_\_  
Edward E. Lopez  
District Manager

Date: \_\_\_\_\_

## **APPENDIX A**

### **PERSONS PARTICIPATING IN THE INVESTIGATION**

#### **Holcim (US) Incorporated**

Mike Ayers	plant manager
Dennis Harding	environmental health and safety manager
Gene Long	distribution supervisor
Robert Mustell	environmental engineer
Edward Wheeler	maintenance and miners representative

#### **Mine Safety and Health Administration**

Vernon E. Miller	mine safety and health inspector
Robert D. Seelke	supervisory mine safety and health inspector